

# CALIFORNIA ~~STATE~~ BOARD OF HEALTH.

## MONTHLY BULLETIN

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Vol. 5.

MAY, 1910.

No. 11.

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Published the twentieth of every month at the office of the Board, Sacramento.

Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California,  
under the Act of Congress of July 16, 1894.

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## REGULAR MEETINGS

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The California State Board of Health meets regularly the first Saturday of each month, but the stated meetings of January, April, July, and October constitute the quarterly meetings required by law to be held at the Capitol of the State.

By courtesy of the University of California the Food and Drug Laboratory and the Hygienic Laboratory are located in University buildings at Berkeley, California.

Address all communications to the

SECRETARY, Sacramento, California.



# MAY BULLETIN.

## HOW TO CONTROL THE COMMON HOUSE FLY.

By WILLIAM B. HERMS, University of California.

With the dawn of a new era in the investigation of problems relating to preventive medicine and public hygiene, there bursts forth a veritable flood of light laying bare the ignorance and misconceptions of the past generations of mankind. There is a great educational campaign sweeping over the entire world at the present time which has as its aim the enlightenment of the masses, pointing out certain dangers to health and happiness which lie on every side. There is, however, room for criticism, inasmuch as the methods used tend largely to frighten individuals, and do not point toward the methods applicable in the correction of the evil. Fear is at the root of much disease, and is disastrous. Boldness and daring in the face of danger may also be disastrous.

It is, nevertheless, notoriously true that we as a nation in our hurry have to be warned over and over again of lurking danger; we go heedlessly on until we are frightened into action. Thus the lecturer on questions relating to public health must hear from those who engage him such words as "Now you must frighten them good, or else they won't do anything," etc. That seems to the writer all wrong. Can we not calmly consider these questions, acting wisely and quickly, not hastily, and gain time in the end? Our nation is a business people, and business propositions appeal to us. If it were told you that it is possible to save ten millions of dollars annually, you would be ready to figure at once. Yet the American people spend annually more than twelve millions of dollars for fly screens, fly paper, fly poisons, etc., and estimating a human life on the average at three thousand dollars, the decrease in vital assets of this country by typhoid fever alone amounts to \$350,000,000. Typhoid fever is a preventable disease, and the common house fly is largely responsible for its transmission. Tuberculosis, cholera, cholera infantum, are now known to be carried by this same fly, and this fly can be controlled,—not without some concerted action to be sure, but without extreme difficulty,—and with its control there is also spared the great financial and vital losses just mentioned.

But there is at once raised a storm of objection on the part of those upon whom the dawning light of hygienic progress has not yet fallen. The annihilation of a species, whether complete or relative, always brings opposition. Few ideas are more firmly rooted in the mind of the average man or woman than that Nature has brought forth nothing that is useless in the economy of the human family,—it must be good for something, otherwise it would not be in existence, and should, therefore, not be exterminated nor even molested. True it is that we must study Nature's ways and endeavor to find out what she is trying to do; then help her to carry out her plans more quickly and more accurately. For instance, if Nature has provided scavengers, she is endeavoring to clean up, thus pointing out to man what he should do. The house fly is often spoken of as one of Nature's scavengers. After a careful study of the



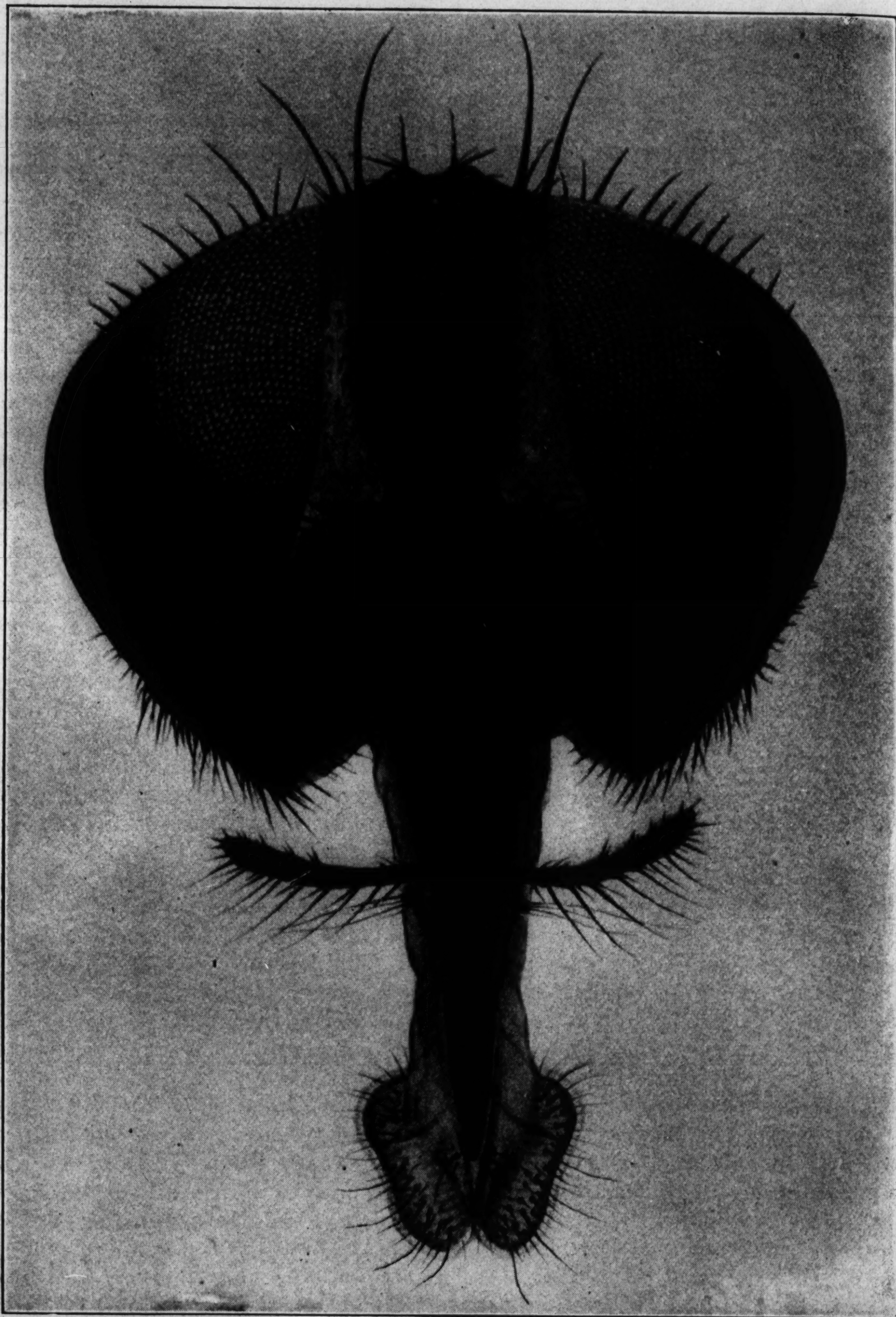


FIG. 1.—Head of the common house fly greatly enlarged. The proboscis is provided with numerous bristles and hairs and is consequently a good collector of filth and germs. (Original.)



performance of this function by the fly, it can be said without question that the house fly is the poorest of scavengers and is the most dangerous of man's enemies, a veritable wolf in sheep's clothing. Certainly no one would contend that it is necessary to be infested with vermin as a substitute for bodily cleanliness, and surely no one would argue that it is a breach of trust with Nature to annihilate the *Anopheles* and *Stegomyia* mosquitoes which are transmitters respectively of malaria and yellow fever. The argument holds when applied to the house fly; it is not a necessary scavenger and is a gross transmitter of disease. Its head and feet (figures 1 and 2) are the most perfect collectors of filth and germs. The house fly's proboscis is provided with a profusion of fine hairs which serve as collectors of germs and filth; the foot of the fly when examined under the microscope presents an astonishing complexity of structures. Each of the six feet is equally fitted with bristles and hairy pads which secrete a sticky material, adding thus to their collecting powers. This structural condition added to the natural vile habits of the house fly completes its requirements as a transmitter of infectious



FIG. 2.—Foot of the common house fly. All six feet are equally good germ collectors, due to the profusion of hairs on the pads, augmented by a sticky secretion. (Enlarged from photograph.)

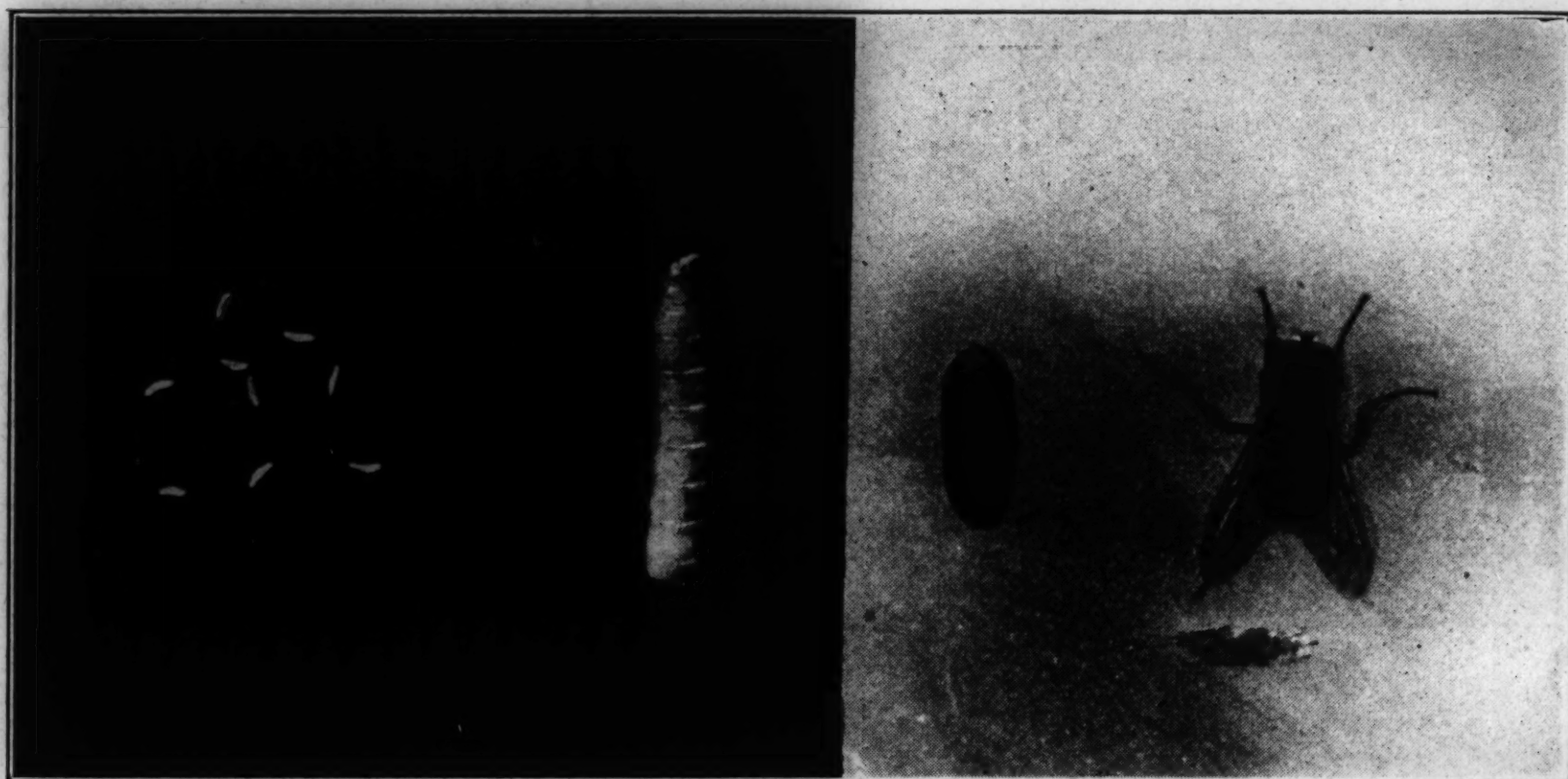
diseases. There is no virtue in the house fly; there is no reason why it should continue to exist. Dr. E. P. Felt has rightly said, "Our descendants of another century will stand in amazement at our blind toleration of such a menace to life and happiness."

It has been estimated that more than 95 per cent of all our common house flies originate from the manures of horses, and the rest develop in kitchen refuse, garbage, and excrement of man. From 75 to 125 eggs are deposited in one mass, and there are usually several (2 to 4) such layings. The eggs hatch in from twelve to twenty-four hours, and the newly hatched larvæ begin feeding at once. To gain an estimate of the number of larvæ developing in an average horse manure pile four samples were taken from various parts of the pile and the larvæ counted, the weight of the samples being previously taken. The total weight of the samples was fifteen pounds and the total number of larvæ (maggots) was 10,282, all of which were quite or nearly full grown. This gives an average of 685 larvæ per pound, and the entire pile was estimated at not less than 1,000 pounds, of which certainly two thirds was infested



like the samples. A little arithmetic gives us the astonishing estimate of 455,525 maggots in an average manure pile of only four days' standing. This particular manure pile (not from a livery stable either) was only one of many known to exist in various parts of a city. No wonder flies fairly swarm in the vicinity of these choice ornaments!

The growing or larval stage requires from four to six days, after which the maggots generally crawl away from their breeding place, many of them burrowing into the loose ground just underneath the manure pile, or crawling under boards or stones, or into dry manure collected under platforms. The maggots often pass three or four days in this condition before they change into pupæ (the resting stage), recognized as small chestnut colored barrel-shaped objects in which the maggots transform into the winged fly. This resting stage requires from five to ten days and more, varying according to temperature; thus the time required for a fly to develop from an egg to the winged insect (figure 3), is usually from ten to twelve days in midsummer.



a. b. c. d.  
FIG. 3.—Photograph illustrating the life history of the common house fly. a. Egg stage; b. larval stage or maggot; c. resting stage or pupa; d. the adult female. (Original.)

We are now familiar with the facts of development and habit and have this knowledge as a basis for action against the pestiferous and dangerous fly.

#### ESSENTIALS OF CONTROL.

Methods of control are planned along the lines suggested by the study of the life history and habits of the insect. The more familiar we are with these two factors, the better able are we to attack the problems of control. Usually the most vulnerable stage in the life history is selected, at which time the insecticide may act most speedily, or during which time permanent preventive measures are most effectively applied. Certainly wherever the breeding places can be eliminated, this method should be followed. It has been already pointed out that at least 95 per cent of our house flies have their origin in the open horse manure pile and that the remainder are bred in the open garbage can and similar situations. The point of attack is clearly shown. *The open manure pile must be abolished and stables must be kept clean. Receptacles*



*containing kitchen refuse must be kept tightly closed or screened, and refuse of any kind must not be thrown out into the back yard to decay.* The reason for this cleanliness is to prevent the female house fly from depositing her eggs upon the material which is to provide food for the maggots.

Permanent preventive measures will always be far less expensive in the end and also very much more effective than the application of temporary methods in the form of insecticides, which must be applied over and over again with continuous expenditure of time, labor, and money.

#### CLEANLINESS ABOUT STABLES.

The writer has been called on frequent occasions to explain the presence of many flies about stables which were said to be in "perfect condition." Three instances may be mentioned. In one case the inside of the stable was in good condition, the manure being thrown out in a heap and removed every four or five days. It was said that surely no flies could develop under such conditions, inasmuch as it requires ten to twelve days to become full fledged flies. The error is evident at once, namely, it requires only four or five days for the maggots to reach their full growth, after which many of them migrate from the manure pile proper into the loose ground underneath or into near-by débris. Removing the manure pile every four or five days therefore did not eliminate the trouble; indeed, it was shown that hundreds of maggots were present in pockets under the site of the pile, and furthermore, 2,561 pupæ were taken from one and three fourths pounds of manure collected at random from underneath a platform leading from the stable. Thus there remained no further question as to the source of the flies in that locality.

The second instance seemed to have a better basis for doubt. In this case the stable was provided with a cement floor with good drainage and the manure was thrown every morning directly into a cart and immediately hauled away. Now, where did the swarm of flies come from? Adjoining the stable was a small lot in which the horse was frequently set free. No attention, of course, was paid this open lot where manure, kept fairly moist with urine, collected and here literally thousands of house fly maggots were developing. Again the problem was solved and the horse lot was thoroughly scraped and thereafter kept clean.

The third instance was easily explained in part and eventually entirely elucidated. In this case it was a certified dairy. Flies were abundant; where did they come from? The horse stables were found to be partly floored with cement, but the stalls were made of wood planks with wide crevices between. In these crevices manure had collected abundantly, and maggots were found there in large numbers. But that was not altogether sufficient to explain the situation. It is, of course, well known that cow manures are not so highly favorable as breeding places for house fly maggots, and none were found. But there is no excuse for not properly disposing of cow manures, inasmuch as the horn fly develops here, one of the most troublesome cattle pests. These manures when piled up are also a fairly good location for house flies. Further search, however, brought to light the fact that the cattle were being fed at that time on "brewers' grain," much of



which remained unconsumed and was dumped upon the field as waste. These piles of waste "brewers' grain" were found to be literally alive with fly larvæ, and again the mystery was solved. These three instances will suffice to make clear the range of breeding places and also the necessity for careful inspection of premises.

#### MANURE BINS.

There must necessarily be some way of disposing of manures from stables. The old method of merely throwing this material outside the barn door and allowing it to accumulate there indefinitely is not only

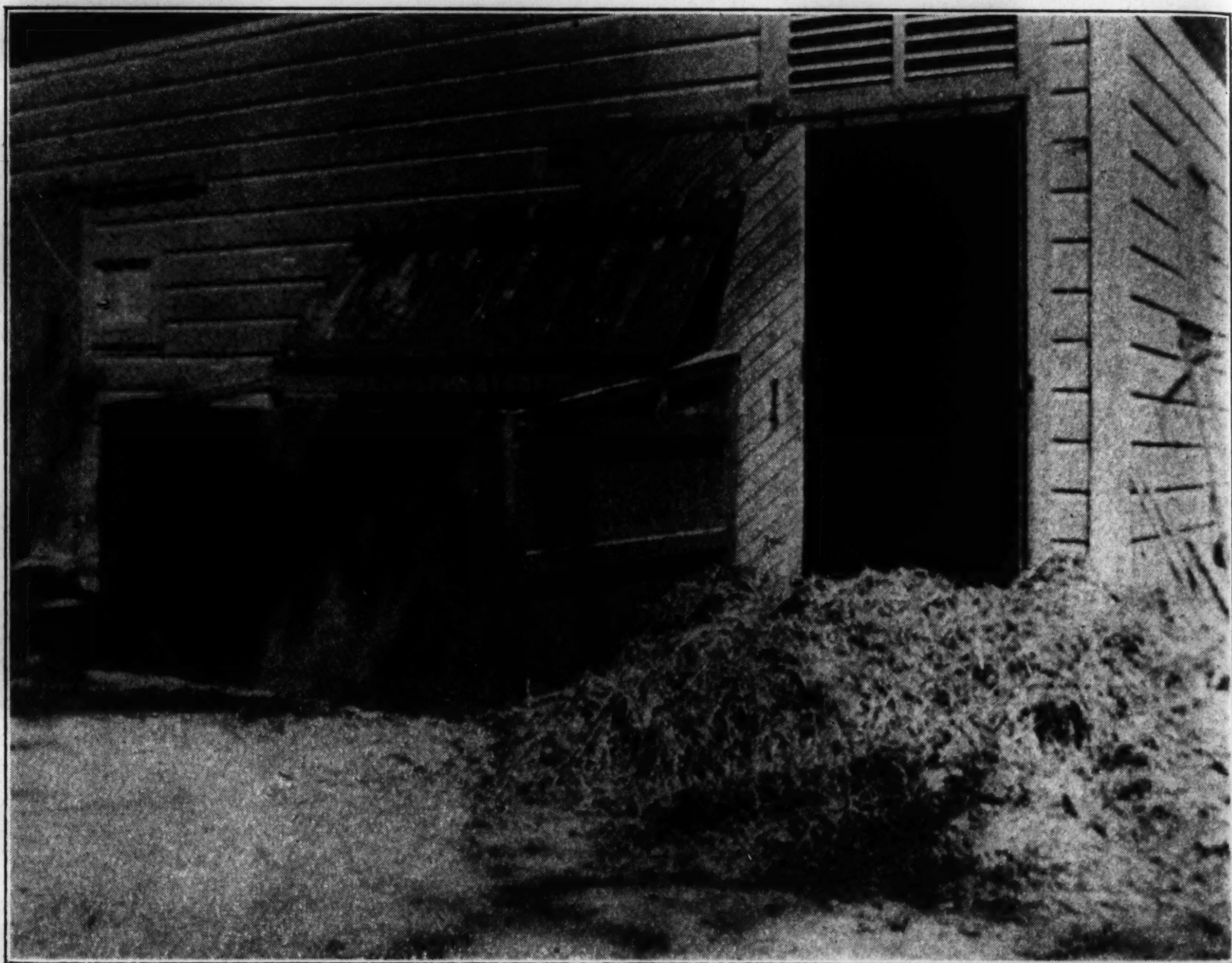


FIG. 4.—An inexpensive but effective wooden manure bin with concrete base. The photograph shows the last manure pile in the yard.

disgusting, but should be considered a criminal act punishable by fine, as it is already in a few of our American cities. The open manure pile must be abolished. The effectiveness of fly-tight manure receptacles has been demonstrated beyond question; it only remains to be decided as to the most practical form which will carry with it the least expenditure of time and money in construction. Several forms of receptacles in use in Berkeley, California, are illustrated herewith. Where only one horse is stabled a simple galvanized iron garbage can has been found very useful and convenient, or even a tight barrel covered over with a tightly fitting lid. The contents of these cans or barrels is removed once or twice per week, either by the city scavengers or by gardeners for fertilizing purposes. Where many horses are stabled, as in a livery stable, a larger receptacle must be provided. In such cases a closet or bin can



be constructed at a small cost, which is satisfactorily offset by the absence of the fly nuisance. Such a closet may be built in one corner of the stable, with a small screened door through which the manure is thrown when cleaning the stalls (providing also for ventilation), and an outer door giving access to clean out the closet once or twice per week. Or a closet of about the same construction may be built in the form of a shed or lean-to connecting with the stable by means of a small screened door, as above. Where it is not convenient to construct a lean-to of this type because of sliding doors or other obstructions, a bin may be substituted as shown in the figure. (Fig. 4.) The illustration

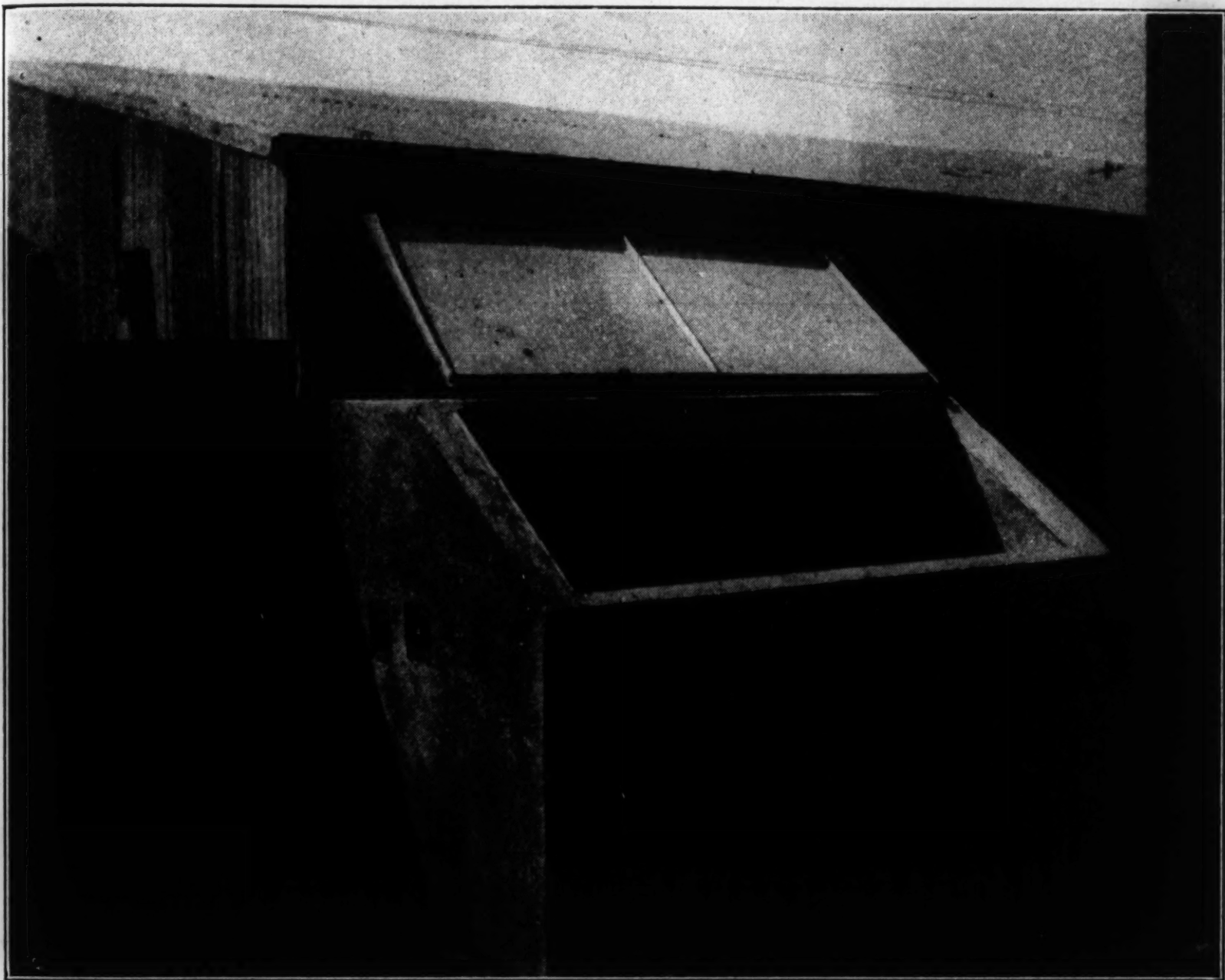


FIG. 5.—Photograph of a concrete manure bin. While very substantial the bin is highly impractical, inasmuch as manure must be lifted out in removing it, and the bin is too far away from the stable. The metal lid also is clumsy.

shows the bin open ready to receive the manure; the bolted door shown in front swings up to allow access in the removal of the manure. The use of a concrete floor built directly upon the earth is strongly recommended, and the wood inside should be well provided with a heavy coat of tar. Any of the closets or bins already mentioned can be constructed at a cost of from twenty-five to thirty dollars or less, which is trifling when the permanency and satisfaction is considered.

Concrete bins and pits are also used with much success, but, of course, are more expensive. A type of concrete bin used at one of the fire engine houses in Berkeley is illustrated. (Fig. 5.) This bin is not so conveniently constructed as it should be, inasmuch as it is unhandy to remove the manure. Concrete pits covered over with a metal top and



built in some dark corner of the stable are also highly effective. The darkness will help keep away the flies.

On the farm or ranch it is often possible and certainly advisable to remove the stable manures every morning, by merely backing a cart to the door, depositing therein the material and hauling it to the field at once, where it is scattered. The manure should in all cases be *scattered* upon the field. Thinly spread manure is not favorable to the breeding of flies, because proper moisture and heat conditions are wanting. Gardeners who desire to have rotted manure should protect these heaps at first by screens until the manure is well rotted, when flies will no longer breed therein.

#### INSECTICIDES FOR MANURE HEAPS.

The purchase of insecticides for continuous use on the manure pile would be a matter of no small cost, especially because of the tenacity of life shown by fly larvæ and the consequent strength of insecticides necessary to kill them. The cheapest and at the same time effective preparations now available must be applied in strengths two to five times that which is useful against other insects, and furthermore, the larvæ can not be easily reached buried as they are in the bedding and offal. Chemicals used to destroy the larvæ (maggots) in the manure pile may be roughly divided into two classes (1) contact poisons, and (2) stomach poisons. To the first class belong such preparations as the kerosenes (generally used in the form of emulsions) and the cresol preparations, also chloride of lime. To the second class belong the arsenicals, represented by arsenate of lead and Paris green. All of these insecticides are more or less effective, when used in proper concentrations and in sufficient quantities, but none of them can be applied with any degree of safety to man or the domesticated animals, because of either their inflammable, poisonous, or corrosive nature. We are, consequently, again forced to recognize the utility of fly-tight receptacles for the manures.

#### THE FLY IN THE HOUSE.

Nearly all efforts thus far to destroy the fly have been directed toward the winged insect, to either destroy it in the house or drive it away. These are certainly laudable efforts, but will only afford in all cases temporary relief. The fly continues to breed, and one fertilized female can be the progenitor of countless thousands of flies in one season. Until the permanent methods of control come generally into use the utmost care should be exercised to keep this most dangerous of disease carriers out of the house, thus properly screening both windows and doors is important. Grocery stores, fruit stands, candy shops, butcher shops, bakeries, and restaurants, which do not protect their wares from the flies, should be compelled to do so by health authorities, and patrons should insist upon this precaution. A little public sentiment in this direction will work wonders.

The use of the ordinary fly poisons is objectionable, since poisoned flies are liable to fall into prepared foods and cause mischief to the consumer. Furthermore, not a summer passes without its toll of innocent children whose lives have been lost, generally in extreme agony, by drinking some deadly fly poison. The writer has found (as already



suggested by others) that formaldehyde, properly used, forms a very good substitute for arsenical or cobalt poisons. This liquid material is rather inexpensive when used as indicated, and has the added advantage that it is not poisonous to man, and may, therefore, be used with impunity around food; it is also one of the most powerful germicides known and is not injurious to delicate fabrics. Formaldehyde as purchased at the drug store is in about a 40 per cent solution and should be diluted with water down to 5 per cent to 8 per cent; in other words, add five to six times as much water. This dilution must now be sweetened well with sugar or other sweet. A good plan is to partly fill a shallow individual butter dish with the diluted formaldehyde and add about one fourth teaspoonful of sugar, then place the dish on the table or in the show window. The flies drink this material and die in great numbers not far from the insecticide. It is not an easy matter to control the fly in a dining-room where there is plenty of liquid material for food and drink, such as water, milk, sweets, etc., but where this can be removed in the evening and the dishes with formaldehyde substituted so that the flies will drink this the first thing in the morning the end will be accomplished much more readily. One is here taking advantage of the fact that the flies seek something to drink as soon as they awaken from their sleep.

#### THE CITY PROBLEM.

Communities in which a campaign against the house fly has been undertaken with determination to win have shown that the fly can be controlled. Sanitary laws, based upon the statements made earlier in this paper, must be drawn up and rigidly enforced without fear or favor. A preliminary educational campaign is highly desirable, and should be supported by the local press. A system of stable inspection carried on by instructed sanitary inspectors is essential. This method of inspection should not only bear the stamp of legal authority, but should also be accompanied by proper written as well as verbal instructions.

The house fly can be controlled without question, and without great labor or expense. The problem is simpler than many are willing to admit, but it requires coöperation and should have the willing support of every citizen. Everybody is concerned—and everybody will share in the victory and share in the saving of financial and vital losses.

#### FACTS THAT ALL SHOULD KNOW.

Being excerpts from an address on "The Physician in His Relation to Public Life," by Dr. James H. Parkinson, President of the Medical Society of the State of California, delivered at the fortieth annual meeting.

[Dr. Parkinson's address is a strong plea for greater activity on the part of the medical profession in those matters which concern the public health. The full text can be found in the California State Medical Journal for June. The remarkable statistics here given must make a deep impression on every citizen who has the welfare of his country at heart.—EDITOR.]

By "Public Life" I do not necessarily mean political activity, though, in our country, the terms seem almost synonymous, nor would I exclude this branch or phase of the question which more or less entwines itself with my original proposition. I mean more directly or more cogently the association with public movements, the leadership in those directly



within our sphere, an activity in all matters of public health, an insistence upon measures and steps in relation to preventive medicine in which the welfare of all the people is concerned.

That we as physicians neglect and even ignore this great field is self-evident; that the leaders of the profession abandon to men of poor equipment and inferior attainments this tremendously important work, can be seen on every side. Too often our best men adopt an attitude of cynicism, an atmosphere of pessimism, without making one brief effort to lighten the gloom which they protest invests their professional vision.

What is the result? We, as a profession, do not occupy in public affairs the position we should justly fill, while civic, state, and national public life all suffer from this torpor of inactivity. Nor is this canker of desuetude confined to the United States, for, along paralld lines, Great Britain and other countries have blundered with ourselves in failing to recognize the enormous potential for good that a somnolent profession contained.

I allude here more particularly to military medical service, as it demonstrates on a vast scale the horrors of neglect and the tremendous benefits of preventive medicine, when intelligently and capably applied.

\* \* \* \* \*

With all our progress in the healing art, the opprobrium of centuries still remained, disease and pestilence slew more than the bullets of the enemy. This patent and obvious fact stands forth on army records everywhere, yet with its very obviousness, why could not the lesson be learned? It was not the bullets of the enemy that decimated the armies; it was the bacilli of disease. At times his brigades worked havoc with the ranks, but the bacteria of pathogenic processes, conducted a twenty-four hour campaign on every day of the year. How are these ravages to be met? By the trained medical officer, who can give force to his knowledge, in an authoritative order.

In simple terms it may be said that the triumph of Japanese naval surgery was due, mainly, to soap and water and clean clothes. An order from a medical officer, directing the very elementary detail of a full bath and clean clothes, from within out, was respected by the fleet. In other words, an order from the medical department, on a matter that was administratively medical, needed no further force to make it effective. Herein lies the key to the situation; it is the medical officer, as a real force in authority, accomplishing results.

In support of my position and as illustrating the conclusions that must inevitably be drawn therefrom, I will quote, at some length, from Seaman's book, where facts and figures are set forth in detail.

For two hundred years, the accepted ratio of mortality in war has been four from disease for every one from bullets. In the war with Mexico and in the Civil war, the rate was about three to one. Coming down to later times, in 1894, the French campaign in Madagascar, shows that of 14,000 sent to the front, twenty-nine were killed in action and 7,000 perished of disease.

In the Boer war, in South Africa, the "losses from disease were simply frightful." Eight times the number of wounded were invalided home on account of disease, while the deaths from disease were seven times the deaths from wounds. Eight tenths of this mortality was due to infectious disease and there were 24,000 cases of dysentery and 31,000 cases of enteric fever.



But the crowning piece of imbecility was reserved for our war with Spain, where in 1898, fourteen were needlessly sacrificed for every one that died from battle casualties.

In the Russo-Japanese war we have the following figures:

Killed and died from wounds.....	52,946
Died from all diseases.....	11,992

“More than four deaths from bullets to one from disease,” a complete reversal of the record of centuries, a betterment of 800 per cent. Dr. Seaman well says: “This record is, I believe, unparalleled and unapproachable in the annals of war.”

Instead of a majority of the cases of disease being infectious as in South Africa, the percentage was 3.51. About half the total sick, in the army, were cases of beri-beri, which the Japanese had already succeeded in wiping out of their navy.

As a commentary upon our conduct of the Spanish-American war, I will quote again from Seaman some passages that illustrate the lamentable failure, in personal and camp hygiene, food, clothing, and, above all, care of the wounded:

Think of it, in a campaign where troops penetrated only seven miles from the sea that army was almost wiped out of existence, because it had insufficient transportation, insufficient food, insufficient shelter, insufficient medical supplies, insufficient medical attendance, and the United States was less than three days away by fast ships.

Listen to what Kennan says about the hospital camp established just before the battle of Santiago:

The hospital staff (the main field hospital) at the beginning of the first day's battle, consisted of five surgeons. The resources and supplies outside of instruments, operating tables and medicines were very limited. There was tent shelter for only about one hundred wounded, no cots, hammocks, mattresses, rubber blankets or pillows for the sick or injured. The supply of army blankets was very short and soon exhausted. There was no clothing, except two or three dozen shirts. For hospital food for sick or wounded, there was nothing except a few jars of beef extract and malted milk, which was private property.

As the day advanced the wounded rapidly increased until, at nightfall, long rows of wounded were lying in the grass in front of the operating tent, without awnings or shelter, awaiting treatment. The small force of surgeons worked heroically and with a devotion that I have never seen equaled, but they were completely overwhelmed by the great bloody wave of human agony that rolled back in ever increasing volume from the battle line. Hundreds of seriously wounded men lay on the ground for hours, many of them half naked and nearly all without shelter by day or night. No organized or systematic provision had been made for feeding them or giving them drink, and many a poor fellow had not tasted food or water for twelve hours, exposed during that time to the glare of a tropical sun. Of course the wounded who had been operated upon, or the greater part of them, had to lie out all night on the water-soaked ground.

Many of the wounded were brought three miles to the hospital, in a jolting ambulance or army wagon. They had lost their upper clothing, at the bandaging stations back of the battle line. They arrived, consequently, half naked and as the limited hospital supplies were soon exhausted, there was nothing to clothe or cover them. All that a little squad could do with a man when they lifted him from the operating table, was to carry him away and lay him down, half naked as he was, on the water-soaked ground, under the stars. There he had to lie in the high, wet grass, with no one to look after him, no one to give him food and water if he needed them, no blanket over him, no pillow under his head. Seaman well says: “Would not that narrative bring tears from a stone? Would it not cause the hardest heart to bleed?”



The fact remains, that "owing to bad management, lack of foresight, and the almost complete breakdown of the commissary and medical departments of the army, our soldiers in Cuba suffered greater hardships and privations in certain ways, than were ever endured by an American army in the field." "Seventy-five per cent of the army was incapacitated for active service, after less than six weeks in the field." For this a ration, consisting principally of fat bacon, salt beef, tomatoes, frequently in a state of fermentation, due to the intense heat, canned beef and hard tack, was largely responsible. Picture to yourselves if you can, such a diet for a campaign in a tropical country. "Out of a mean force of 167,168, the majority of whom stayed in home camps, 158,460, or 95 odd per cent, were admitted to the hospitals. The Japanese in an equal period of time had but 15 per cent, represented by men who were fighting in the field exposed to the greatest hardships and rigors of war."

In the Crimea, in our Civil war, in the Boer campaign, and in the Spanish-American war there is little variety except that at times the record is worse. Always there is the story of sickness and deaths, far outnumbering the inevitable casualties of war, and all from preventable diseases.

Is this the heritage of the Anglo-Saxon race? Is this our fate or our destiny? What a commentary on the horrors and miseries of warfare that we make no intelligent effort to prevent an overwhelming percentage.

What steps have we taken to obviate the recurrence of such catastrophies? Little or none perhaps, and here I come to the point of this address, for which our disastrous military record has been used as an illustration: It is time that the profession declare itself. It is time that it does its duty by its people in demanding and in obtaining reform. Rightly put, and promptly followed home, it will meet with unquestioned success.

The United States army needs a medical corps, established on lines that have been so singularly successful in the Japanese army. A medical department which shall have administrative and executive functions in its own sphere. Its military rank as far as command and authority is concerned should be graded with that of officers of the line. Its commanding officer should be represented in the general staff. This is a perfectly obvious and common sense fact and if military authorities can not grasp it, the people, the source of all power, can be made to see it.

Medicine is coming more and more to a scientific basis, more and more is it reaching the standard of an exact science. The public realizing the tremendous advantages of preventive medicine, the enormous economy due to uninterrupted commerce, is ready and apt for any lesson.

\* \* \* \* \*

Let me, in conclusion, repeat the text of my remarks, "The Physician in His Relation to Public Life," as I urge you to higher deeds. Let every man in his own community and in his own sphere, deal with his people as he finds them. Let him but preach the doctrine of scientific medicine and of sanitation in all seasons. Let the leaders in our profession, when occasion demands, unite to demonstrate a position or to enforce a truth.



Then, backed by an organized profession, is it but a dream? Nay, will it not become a reality that medicine with its ever-growing knowledge in a god-like calling will shine with increasing effulgence until like a great sun it will illuminate the dark corners of defective sanitation, therapeutic ignorance and medical superstition, throughout the world.

### THE BUSINESS MAN'S VACATION—WHAT HE SHOULD AND SHOULD NOT DO.

By RAYMOND RUSS, M.D.

There has never been a time when the need of a thorough rest, of change of scene and occupation, is so much appreciated as at the present.

The whirl of business, the constant rush and struggle of bread getting, the tremendous competition to which workers in every line are subjected, draw strongly on our nervous energy and leave us, when summer is at hand, exhausted from the months of effort. "Haven't taken a vacation in ten years," exclaims the man you meet. Frequently it is not necessary for him to make the statement, you have already guessed it. He is worn and lifeless—his work is performed in that mechanical way which suggests the automaton. Initiative and enthusiasm have long since departed. His ways are set; each day he goes through his duties with the regularity of clockwork and with an equal intelligence. Melancholy is his mantle—as he becomes dyspeptic, social conditions weigh upon his mind and depress him beyond measure. His attitude is pessimistic. The world puts on a sorry look to him who views it with dulled eyes; and if it were really his lot to escape for a time from his desk, he would probably take his pleasures sadly.

The capacity for enjoyment is lost through disuse just as much as any function of the body. Fish in the Mammoth Cave can not see; therefore, they have no eyes. The man who loves Nature, who takes every opportunity to come close to her heart, who forgets the worries and cares of the office in the delights which are hers to give, possesses an asset which can not be measured by monetary standards. It means health and happiness to him, rejuvenation of the body and the mind, and a broader and more comprehensive view-point elevated far above the petty standards of every day commercial life.

No other State possesses the varied climate and scenery of California. He who is brain fagged may turn for recreation to the great expanse of seacoast or the high mountains. He may seek seclusion in the deep woods of the north, or enjoy the level stretches of verdant southern country. But wherever he goes for his weeks of pleasure the sojourner must carefully consider his hygienic surroundings. Each year are recorded cases of typhoid and malarial fever, two preventable diseases, contracted in summer resorts, and many of these cases can be laid directly to the lax system of caring for the health of those people who are seeking this very thing. The source of water supply, sewage disposal, the presence of flies, the dangers from which are pointed out in this number of the Bulletin, are questions which should occupy the attention of him who anticipates a change of scene. The farmhouse, in which sanitation at any time is none too good, naturally increases its scope of harm with the influx of summer boarders. An appreciative



public who demand in the country what they are accustomed to enjoy in city life, can quickly solve this problem.

It has been the opinion in many rural districts that the stringent sanitary regulations, which cities of necessity have adopted, in no way apply to them—that he who lives close to mother earth receives a natural protection from his own negligence, and that the ill-smelling privy, the manure pile with its swarms of flies, the old well at the kitchen door, into which the surface water is drained, were a part and parcel of country life.

Recently a physician, in speaking to the writer of a contiguous country district, stated that in his ten years' experience in this community, every farmhouse had contributed at least one case of typhoid fever, and some of them very many. The reason was evident. The land was low and poorly drained; the soil light and porous, and it was 30 feet before a good clay strata was reached. Shallow wells had been bored everywhere in situations most convenient to the kitchen, or barnyard, and these were invariably contaminated with surface water. The barns were filthy, and manure was piled high in many of the yards. A bacteriologist examined the water from a number of these wells and pronounced it unfit for drinking purposes. Typhoid fever still rages in this community, for as yet the population have not been converted to the advantages of sanitation.

Some months ago the sanitary conditions existing in an outlying district of a town, which is rapidly becoming a popular summer resort, were called to the attention of the State Board of Health. This district was without sewerage, and a population which numbered about 200 during the winter months, forming a well settled area, was increased to a thousand by the influx of summer residents. The inadequate sanitation of the winter became fearful in the hot months. Fortunately, the public are becoming educated to sanitary needs. It was not until a decided falling off in the summer population confronted the inhabitants that they became alive to the dangers which had so long surrounded them.

Sanitary science boasts conquests which are marvelous. One victory only will be mentioned here. The recent Jamestown Exposition was located upon low, marshy ground in an unhealthy zone of the State. It was not until a few months before the fair opened that the directors came to a full realization of the sanitary problem. At this time Dr. Rupert Blue was sent by the United States Public Health and Marine Hospital Service to Jamestown, in order to place the fair grounds, if possible, in a sanitary condition. A herculean task confronted him; because of lack of funds and the slight interest shown in this work he was obliged to proceed with his task almost alone. As a result of his indefatigable labor the health conditions during the fair were most satisfactory. Eighteen hundred United States troops were quartered within its confines for several months. Although the disease was rampant outside the fair grounds, not a single case of typhoid contracted within the Exposition occurred during the time that it was open to the public.

Those who anticipate a camping trip to the many points in the State, which are so suitable for that purpose, should at least acquaint themselves with the principles which underlie camp sanitation. Great care



must be taken to see that human excreta, kitchen slops, and dry garbage are properly disposed of. A reiteration of advice on this subject, which has already appeared in the Bulletin, may not be out of place.

For the disposal of human excreta "the 'dry-earth' closet is the safest and often the most convenient method. It consists of a seat so arranged that a bucket may be placed under it, and a powdered earth tank placed above it with a slide-door to permit dry-earth to fall into the bucket." Old mother earth is one of our best sanitarians. The soil bacteria which dry-earth contains break up the bowel discharges into their inorganic constituents, and also absorb the moisture and odors. Each day the bucket contents may be spaded into the ground, where these bacteria continue the process of disintegration. Kitchen refuse if not handled properly is a source of attracting and breeding innumerable flies and mosquitoes. A most satisfactory method is to throw this refuse each day into a pit, which has been dug for the purpose. The pit should be covered with cheese cloth, and loose earth and pine needles thrown in daily. The coarser leavings from the table should be burned in the campfire. The destruction by fire of dry garbage will be found to be a most efficient method of disposal.

It is strange that it has taken man so many years to realize the dangers of soil pollution. It is common knowledge among farmers that if live stock is kept for long periods of time in the same pasture, the animals will not thrive. The time will also come when they will sicken and die, but these facts are not brought home to ourselves. It is sometimes found that more care is taken of animals than of human beings.

Vacations are a necessity. Change of scene, climate, surroundings, must be a part and parcel of every year of our busy lives. Let us see, then, that in taking our much needed rest we make no sacrifice of the most essential feature of all—good health.

### CALIFORNIA PUBLIC HEALTH LEAGUE.

VARIOUS PUBLIC HEALTH ORGANIZATIONS OF THE STATE MEET AT SACRAMENTO AND UNITE FOR THE COMMON CAUSE.

Possibly the most important meeting which has ever been held in the State of California in the interests of public health was called to order at Sacramento on April 18, 1910.

The necessity for coöperation and coördination of effort on the part of the various organizations within the State doing public health work has been illustrated so many times that the economy and harmony which could thus be gained was generally appreciated by all.

The meetings were largely attended, and so much interest was manifested in the subject that it is believed that the formation of this League will be of great benefit to health conditions within the State.

The first order of business was a discussion of the Owen bill providing for the establishment of a National Department of Public Health. After a lengthy discussion of the aims and purposes of such a department, Dr. W. Le Moyne Wills, Vice-President of the State Board of Health, introduced the following resolution, which had been adopted by the State Board of Health, and which was duly seconded and adopted by the League:



We, the members of the State Board of Health of California, are opposed to the establishment of a Department of Public Health, as proposed by the Owen bill (U. S. Senate No. 6049), for the following reasons:

*First*—Because there is no assurance that such a department would be anything more than a political bureau, without settled policy or stability, or that it would be presided over by a medical man of high standard, and training to enable him to cope with public health and quarantine problems.

*Second*—Because we believe that the United States Public Health and Marine Hospital Service has in the recent past most efficiently handled grave crises involving the public health and business, and has thus amply proved its ability to continue so to do, and no State owes more to this Service than does California.

*Third*—Because we believe in the condensation of all the bureaus relating to public health, except the Medical Corps of the Army and Navy; and we suggest that the United States Public Health and Marine Hospital Service be made the initial unit, about which all these Federal Services can be grouped to national economy and advantage.

Signed: MARTIN REGENSBURGER,  
W. LE MOYNE WILLS,  
WILLIAM F. SNOW,  
JAMES H. PARKINSON,  
O. STANSBURY.

[At a meeting of the State Board of Health on May 7, 1910, the following supplementary resolution was adopted:

*Resolved*, That the action of the conference of State and Provincial Boards of Health in unanimously endorsing the principle of the Owen bill for the establishment of a National Department of Health, to be presided over by a secretary, who shall be a member of the President's cabinet, be approved by the California State Board of Health.

*Be it further resolved*, That this resolution shall be construed as an expression of confidence in Senator Owen and in the need for the department which he proposes to establish, but shall not be construed as rescinding the previous resolution of this Board which expresses its belief that the United States Public Health and Marine Hospital Service should be made the unit of unification, and that a physician should be secretary of the proposed department.]

A Committee on Constitution, consisting of Dr. Geo. H. Kress, C. M. Goethe, Dr. R. A. Archibald, Dr. N. K. Foster, and Dr. R. G. Brodrick, was appointed, and as a result of their conference the following constitution was adopted:

NAME.

The name of this organization shall be THE CALIFORNIA PUBLIC HEALTH LEAGUE.

OBJECT.

The object shall be the coördination of effort and the promotion of economy and harmony among all public health organizations and agencies in California.

REPRESENTATION.

All public health organizations and such other bodies as are working for the promotion of public health ends in California shall be entitled to representation in such amount as may be allowed by the Board of Directors, or the Executive Committee, of this League.

OFFICERS.

The officers of this organization shall be a President, a First Vice-President, a Second Vice-President, and a Third Vice-President, a Secretary-Treasurer, and a Board of Directors of forty members.

The Board of Directors shall consist of the President, the First, Second, and Third Vice-Presidents, the Secretary-Treasurer, and thirty-five other members.

The chairman of the Board of Directors shall be the President of the League.

The Secretary-Treasurer shall preferably be the Secretary of the State Board of Health.

DUTIES AND POWERS.

The Board of Directors shall have authority to appoint an Executive Committee of nine members and shall have authority to delegate to this Executive Committee such of its powers and duties as may be deemed wise.

QUORUMS.

A quorum of the Board of Directors shall consist of nine members.

A quorum of the Executive Committee shall consist of three members.

The President and Secretary-Treasurer of the League shall be ex officio members of the Executive Committee.



#### DUTIES OF OFFICERS.

The duties of the Board of Directors' and Executive Committee shall be those which usually pertain to such positions.

The Board of Directors and the Executive Committee shall have power to act for the League between annual meetings.

#### MEETINGS.

This League shall meet annually, preferably at the same place and on the day preceding the annual meeting of the State Medical Society.

#### BY-LAWS.

The Board of Directors, or the Executive Committee shall have power to adopt such by-laws as in their judgment may be deemed best.

The Committee on Constitution also acted as a nominating committee, and as a result of their recommendations, the following officers were elected:

President.....	Mr. A. Bonnheim, Sacramento.
First Vice-President.....	Dr. F. C. E. Mattison, Pasadena.
Second Vice-President.....	Miss Elizabeth H. Ashe, San Francisco.
Third Vice-President.....	Dr. Geo. Aiken, Fresno.
Secretary-Treasurer.....	Dr. William F. Snow, Sacramento.

The following names were proposed as Directors of the League:

Mrs. H. W. Adams, President Women's Auxiliary White Crusaders.  
Dr. Martin Regensburger, President State Board of Health.  
H. J. McCoy, Secretary Young Men's Christian Association.  
Dr. N. K. Foster, Medical Director Oakland Schools.  
Dr. Benjamin Ide Wheeler, President State Red Cross Society.  
F. W. Dohrmann, President San Francisco Red Cross and Relief Funds.  
Dr. W. Jarvis Barlow, Founder Barlow Sanatorium for Indigent Consumptives.  
Duncan McKinnon, City Superintendent of Schools, San Diego.  
Dr. Geo. H. Kress, Secretary State Tuberculosis Society.

It has been ordered that a letter be sent to each society doing public health work asking if it is the desire of the society to join in the League, and if so, to suggest the name of a member to represent that society.

It has been suggested that the matter of finances and the working plans of the League be left in the hands of the Executive Committee, and that they also be empowered and instructed to take such steps as may be necessary to effect this organization, and to arrange details for a meeting to be determined upon by them.

It was decided that the State Board of Health be requested to set aside a space in its monthly bulletin, the pages of which shall be devoted to the work of this League.

A resolution was passed that it be the sense of the California Public Health League that the supervision of the milk supplies of the State be carried on under the direct control of the California State Board of Health.

A résumé of the work of the League will be published from time to time in this Bulletin.

#### CALIFORNIA STATE ASSOCIATION FOR THE STUDY AND PREVENTION OF SYPHILIS AND GONORRHEA.

At a meeting of the members of the Educational Committee it was decided to come to a common agreement as to work to be undertaken and ways and means of carrying it on. It was further agreed that the committee should collect and approve such facts as should be presented (a) to parents' and mothers' clubs, (b) to boys and girls of high school age, (c) to educational gatherings.



The plan herein suggested is then that each member of the committee send at once to C. E. Rugh, room 201, California Hall, Berkeley, a careful statement of

(1) What facts should be presented to mothers' clubs. (Suggest materials and sources of materials.)

(2) What instruction, if any, should be given to high school boys, and by whom?

(3) Same for girls.

(4) What facts should be presented at teachers' institutes.

The facts thus gathered will be collated and resubmitted to the members of the committee for approval in order that we may as far as possible present a united front in attacking this great problem.

#### OFFICERS AND STANDING COMMITTEES.

*Executive Committee.*—Dr. Douglas W. Montgomery, San Francisco; Dr. H. E. Alderson, San Francisco; Dr. William F. Snow, Sacramento; Dr. John C. Spencer, San Francisco; Dr. R. A. Archibald, Oakland.

*Educational Committee.*—Prof. E. C. Rugh, Berkeley; Mrs. May L. Cheney, Berkeley; Mrs. W. J. Patterson, Berkeley; Mrs. Evelyn W. Allan, Berkeley; Mrs. L. L. Fletcher, Berkeley; Mrs. Edith Stebbins, Berkeley; Dr. Jessica Peixotto, Berkeley; Mrs. Francis R. Wall, Berkeley; Dr. Sarah I. Shuey, Oakland; Dr. Mary Smythe, Stockton; Mr. Dane Coolidge, Berkeley; Miss Catherine C. Felton, San Francisco; Miss Kane, San Francisco; Dr. A. E. Osborne, Santa Clara; Dr. R. O. Moody, Berkeley; Dr. Fitch C. E. Mattison, Pasadena; Dr. A. S. Kelly, Oakland; Prof. F. H. Lange, Berkeley; Dr. Agnes Walker, San Francisco; Dr. Wm. L. Holt, San Luis Obispo; Mrs. C. H. Hawkins, San Francisco; Mr. J. C. Astredo, San Francisco.

*Legislative Committee.*—W. H. Donahue, Esq., Oakland; Miss Catherine C. Felton, Berkeley; Judge M. C. Sloss, San Francisco.

*Publication Committee.*—Dr. Martin Regensberger, San Francisco; Dr. William F. Snow, Sacramento; Dr. George C. Pardee, Oakland; Mrs. Frank Patterson, Berkeley; Mrs. Francis R. Wall, Berkeley.

*Research Committee.*—Dr. Florence M. Sylvester, Oakland; Dr. Agnes Walker, San Francisco; Dr. Rachael L. Ash, San Francisco; Dr. H. E. Alderson, San Francisco; Dr. William F. Snow, Sacramento; Dr. Douglas W. Montgomery, San Francisco.

*Finance Committee.*—Dr. George Merritt, San Francisco; Mrs. John F. Merrill, Menlo Park; Mrs. May L. Cheney, Berkeley; Dr. John C. Spencer, San Francisco; Dr. R. A. Archibald, Oakland.

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## DEPARTMENT OF VITAL STATISTICS.

GEORGE D. LESLIE, STATISTICIAN.

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### VITAL STATISTICS FOR APRIL.

*Marriages.*—The marriages reported for April number 1,966, as compared with only 1,699 for the same month last year. For an estimated State population of 2,056,190 in 1910, the April total represents an annual rate of 13.4, against merely 9.1 for March.

The April totals were highest for the following counties: San Francisco, 419; Los Angeles, 418; Alameda, 184; Santa Clara, 90; Sacramento, 79; Orange, 66; Fresno, 61, and San Bernardino and San Diego, each 54.

The aggregate for San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo) was 699.



*Births.*—For April there were reported 2,582 living births, representing an annual birth-rate of 15.3 per 1,000 population, as compared with 15.1 for the preceding month. The corresponding total for the same month the year before was 2,349.

The totals were highest for the following counties: Los Angeles, 586; San Francisco, 529; Alameda, 303; Santa Clara, 98; Fresno and Sacramento, each 93; and San Bernardino, 56.

Altogether 1,620 births were registered in the twenty-six freeholders' charter cities, the leading cities being as follows: San Francisco, 529; Los Angeles, 409; Oakland, 203; Sacramento, 66; Berkeley 50; Fresno, 44; Pasadena, 42; San Jose, 41; San Diego, 36; and Alameda, 25.

The aggregate for San Francisco and the transbay cities (Alameda, Berkeley, and Oakland) was 807, and for San Francisco and the other bay counties was 902. Similarly, the total for Los Angeles and neighboring chartered cities (Long Beach, Pasadena, and Santa Monica) was 479, and for the entire county was 586.

*Deaths.*—Exclusive of stillbirths, altogether 2,605 deaths were reported for April, this number including 191 delayed certificates for deaths in March or earlier months. The 2,605 deaths give an annual death-rate of 15.4, against 15.7 for the month before. The corresponding total for the same month last year was 2,616.

The April totals were highest for the following counties: Los Angeles, 557; San Francisco, 538; Alameda, 260; Santa Clara, 109; San Bernardino, 89; San Joaquin, 83; Sacramento, 80; San Diego, 69; and Fresno, 52.

There were altogether 1,525 deaths in the twenty-six chartered cities, the highest totals being as follows: San Francisco, 538; Los Angeles, 359; Oakland, 160; San Diego, 55; Sacramento, 47; San Jose and Stockton, each 40; Berkeley, 31; San Bernardino, 30; and Alameda and Fresno, each 25.

The aggregate for the urban district (San Francisco and the transbay cities) was 754, and for the entire metropolitan area (San Francisco and the other bay counties) was 881. Similarly, the total for Los Angeles and neighboring chartered cities was 412, and for the whole county was 557.

*Causes of Death.*—For April there were reported 427 deaths, or 16.4 per cent of all, from diseases of the circulatory system, and 420, or 16.1 per cent, from various forms of tuberculosis, heart disease thus leading tuberculosis slightly.

Other notable causes of death in April were as follows: Diseases of the respiratory system, 242; violence, 239; diseases of the nervous system, 221; diseases of the digestive system, 200; Bright's disease and nephritis, 167; epidemic diseases, 149; and cancer, 148.

The deaths from epidemic diseases were as follows: Whooping-cough, 36; typhoid fever, 33; measles, 27; diphtheria and croup, 22; and all other epidemic diseases, 31. Typhoid fever, usually the leading epidemic disease, was surpassed by whooping-cough for April, as for March and February.



The deaths for the three leading epidemic diseases reported for April were distributed by counties as follows:

WHOOPIING-COUGH.		TYPHOID FEVER.		MEASLES.	
Alameda	7	Alameda	2	Alameda	2
Humboldt	4	Contra Costa	1	Fresno	1
Kern	2	Fresno	1	Kern	2
Los Angeles	1	Kern	2	Los Angeles	15
Mendocino	1	Lake	1	Orange	2
Riverside	1	Los Angeles	5	San Bernardino	1
San Bernardino	1	Napa	1	San Francisco	1
San Francisco	4	Placer	2	Santa Clara	1
Santa Barbara	3	Riverside	2	Shasta	1
Santa Clara	6	San Bernardino	1	Tulare	1
Solano	1	San Francisco	6	Total	27
Sonoma	1	San Mateo	1		
Tehama	4	Santa Barbara	2		
Total	36	Santa Clara	1		
		Santa Cruz	1		
		Shasta	1		
		Tehama	1		
		Tulare	1		
		Ventura	1		
		Total	33		

Further particulars appear in the following table:

*Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths for Current and Preceding Month, for California: April.*

Cause of Death.	Deaths: April.	Proportion per 1,000.	
		April.	March.
ALL CAUSES	2,605	1,000.0	1,000.0
Typhoid fever	33	12.6	10.2
Malarial fever	4	1.5	0.7
Measles	27	10.4	18.3
Scarlet fever	5	1.9	1.5
Whooping-cough	36	13.8	13.5
Diphtheria and croup	22	8.4	4.4
Influenza	8	3.0	3.3
Other epidemic diseases	14	5.4	6.6
Tuberculosis of lungs	364	139.7	143.4
Tuberculosis of other organs	56	21.5	27.4
Cancer	148	56.8	62.2
Other general diseases	135	51.8	33.7
Meningitis	24	9.2	13.5
Other diseases of nervous system	197	75.6	80.5
Diseases of circulatory system	427	163.9	156.2
Pneumonia and broncho-pneumonia	182	70.2	77.9
Other diseases of respiratory system	60	23.0	32.2
Diarrhea and enteritis, under 2 years	55	21.1	20.9
Diarrhea and enteritis, 2 years and over	20	7.7	5.1
Other diseases of digestive system	125	48.0	47.9
Bright's disease and nephritis	167	64.1	68.8
Childbirth	26	10.0	7.3
Diseases of early infancy	81	31.1	26.7
Suicide	53	20.3	26.3
Other violence	186	71.4	63.6
All other causes	150	57.6	47.9



*Geographic Divisions.*—Data for geographic divisions, including the metropolitan area, or “Greater San Francisco,” are as follows:

*Deaths from Main Classes of Diseases, for Geographic Divisions: April.*

Geographic Division.	DEATHS: APRIL										
	All Causes	Epidemic Diseases	Tuberculosis (All Forms)	Cancer	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Bright's Disease and Nephritis	Violence	All Other Causes
THE STATE	2,605	149	420	148	221	427	242	200	167	239	392
Northern California	284	19	28	15	36	51	27	17	8	33	50
Coast counties	146	10	11	5	26	31	11	13	2	19	18
Interior counties	138	9	17	10	10	20	16	4	6	14	32
Central California	1,485	84	225	85	111	261	152	112	100	146	209
San Francisco	538	18	90	30	33	106	67	47	35	54	58
Other bay counties	343	24	38	22	35	64	33	23	20	34	50
Coast counties	174	15	24	11	14	33	11	15	12	17	22
Interior counties	430	27	73	22	29	58	41	27	33	41	79
Southern California	836	46	167	48	74	115	63	71	59	60	133
Los Angeles	557	30	106	38	47	80	47	45	41	33	90
Other counties	279	16	61	10	27	35	16	26	18	27	43
Northern and Central California	1,769	103	253	100	147	312	179	129	108	179	259
Metropolitan area	881	42	128	52	68	170	100	70	55	88	108
Rural counties	888	61	125	48	79	142	79	59	53	91	151

## DEPARTMENT OF BACTERIOLOGY.

DR. A. R. WARD, DIRECTOR.

### EXAMINATIONS MADE DURING APRIL, 1910.

	Ex.-Pos.	Ex-Neg.	Total.
Diphtheria	5	56	61
Malaria	0	1	1
Tuberculosis	5	12	17
Typhoid	1	11	12
Water	0	0	0
Miscellaneous	1	2	3
Rabies	0	1	1
Total			95



# DEPARTMENT OF PURE FOODS AND DRUGS.

PROFESSOR M. E. JAFFA, DIRECTOR.

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## REPORT OF EXAMINATION OF SAMPLE OF PRESERVED PEARS FROM SAWTELLE.

In view of the questions that have been asked concerning the results of investigations of the poisoning which occurred at Sawtelle on the 2d of January, it is thought best to make public the report of the case.

In brief, the facts are as follows:

On above date twelve persons were fatally poisoned at a single meal at Sawtelle. It was claimed that the poisoning was due to preserved pears. What remained of the jar of said pears was sent to the State Laboratory with a request that the same be examined for the presence of ptomaines or other toxic substances. A request was then made by the Laboratory for a list of the foods eaten at the meal. In answer to this inquiry no list was furnished, but it was stated that all other substances were eliminated as nontoxic except the pears. No mention was made of the tomatoes which were also eaten at the same time.

The publication at this time seems especially called for because it would appear that those interested in the fruit canning industry hold that owing to the reports which have been spread concerning the sad occurrence, their interests are being seriously affected. If the poisoning had been due to the eating of canned or preserved fruit there might be, perhaps some ground for their alarm, but the report herewith shows such was not probable.

The pears in question were not commercially canned pears, but pears preserved at home in jars.

Ptomaine poisoning as result of eating preserved pears hardly seems possible, because pears at best do not contain more than one half of one per cent of albuminoid substances. When pears are put up there is added to the fruit considerable syrup, which ordinarily contains no nitrogenous material. The total amount, therefore, of nitrogenous material in the pears was exceedingly small, and it was for that reason that ptomaine poisoning by the use of such material was questioned.

The examinations, however, were made by feeding the pears to different animals. The object of such experimentation was to ascertain whether or not the said pears had any toxic properties. The experiments included the feeding of rabbits, rats, mice, and dogs. The first set of experiments was carried on with rabbits, rats, and mice. The pears were fed to two rabbits. The fruit was pulped and fed to the animals. The amount used was from one third to one half that usually used for a helping of an adult. The next day the rabbits seemed to be perfectly well and lively. The rabbits were then fed more of the pears, and this feeding was continued for four days, with the result that the animals did not seem to be in any worse condition at the end of the experiment than they were at the beginning. Similar experiments



were conducted with reference to rats and mice. After two days' feeding of this suspected pear, the rats and mice were in first-class, healthy, normal condition. It would thus appear that as far as rabbits, rats, and mice were concerned, the pears did not possess any toxic properties.

These symptoms as described by the doctors all indicated quite markedly, mushroom poisoning, or something similar. This being the case, it was thought that perhaps there might be something toxic in the pears to which the rats, mice, and rabbits would be immune, in that they were field feeders. So a further experiment was planned to include dogs. The experiment along this line was conducted for five days, with the result that no bad effects whatever followed the feeding of the pears. The dog having received at each feeding about as much as would be considered an ordinary helping at a table. These experiments practically used up all the material which was furnished, there being originally but a very small part of a jar of pears submitted to the Laboratory.

The impression, which was found later to be erroneous, was that there was in Los Angeles another jar of the pears, but upon writing for the same, it appears that such was not the case.

The only inference which could be drawn from the results of the foregoing experiments, would be that the pears did not possess any toxic properties. It must not be concluded from this that no digestive disturbances, slight or otherwise, can be caused by eating spoiled or improperly put up fruit. Such is not the case, but there is a great difference between those substances which will produce digestive disturbances and those which have toxic properties.

It would appear that at a meeting of the County Medical Association, held February 4th, that there was on the table at the dinner, on the night in question when the pears were eaten, tomales, and it would seem far more reasonable that the poisoning was due to the tomales than to the fruit. This opinion seems to be warranted by the results of carefully conducted feeding experiments heretofore discussed.

It is true that two guinea pigs which were fed the pears died the next day, but owing to the preponderance of evidence in connection with the other animals, namely, rabbits, rats, mice, and dogs, which suffered in no way whatever from the consumption of the pears, it does not seem possible that the toxic properties were shown to be possessed by the pears. It must be remembered in this connection that guinea pigs are seldom used for toxicological experiments for the reason that they are very delicate and often succumb to troubles which could not be considered as resulting from the ingestion of toxic substances.

#### NOTICE OF JUDGMENTS.

The following list of Notices of Judgments are presumed to be of interest to the different manufacturers and dealers in this State. It is impossible to reprint them in full, but any one interested in any special notice, can obtain the same upon application to the Director of the State Laboratory, Berkeley, Cal.

*Notice of Judgment No. 215.*—Adulteration and Misbranding of Coffee. (Substitution Maracaibo coffee for Java and Mocha.)

*Notice of Judgment No. 216.*—Adulteration and Misbranding of Hydrogen Peroxide. (Presence of acetanilid.)



*Notice of Judgment Nos. 217, 244.*—Adulteration and Misbranding of Olive Oil. (Cottonseed oil added.)

*Notice of Judgment No. 218.*—Adulteration and Misbranding of Strawberry Extract.

*Notice of Judgment No. 201.*—Misbranding of a Drug, "Make-Man Tablets." (False and exaggerated statements.)

*Notice of Judgment No. 202.*—Adulteration and Misbranding of a Beverage, "Koca Kola." (Presence of cocaine not stated.)

*Notice of Judgment No. 203.*—Misbranding of a Drug, "Mother's Friend." (False and misleading statements.)

*Notice of Judgment No. 204.*—Misbranding of a Drug, "Lambert's Wine of Coca." (Quantity of cocaine not stated on label.)

*Notice of Judgment No. 205.*—Misbranding of a Drug, "Radam's Microbe Killer." (Statements false and exaggerated.)

*Notice of Judgment No. 220.*—Adulteration and Misbranding of Turpentine. (Substitution of Mineral Oil.)

*Notice of Judgment No. 221.*—Adulteration and Misbranding of Camphor. (Below standard.)

*Notice of Judgment No. 223.*—Misbranding of Condensed Milk. (Underweight.)

*Notice of Judgment No. 224.*—Adulteration of Liquid Eggs. (Addition of poisonous substances and decomposed matter.)

*Notice of Judgment No. 225.*—Misbranding of Headache Tablets. (Statements false and misleading.)

*Notice of Judgment No. 226.*—Misbranding of Laudanum. (False statements, etc.)

*Notice of Judgment No. 227.*—Adulteration of Desiccated Eggs. (Found to be in decomposed, putrid condition.)

*Notice of Judgment No. 230.*—Adulteration and Misbranding of Stock Food. (Hulls added.)

*Notice of Judgment No. 231.*—Adulteration and Misbranding of Bran. (Rice hulls added.)

*Notice of Judgment No. 233.*—Misbranding of a Drug, "Aceton." (False and misleading statements.)

*Notice of Judgment No. 234.*—Misbranding of Molasses. (Underweight.)

*Notice of Judgment No. 236.*—Misbranding of a Drug, "Coke Extract." (Proportion of cocaine not stated on label.)

*Notice of Judgment No. 237.*—Misbranding of Lemon Flavor. (Only trace of oil of lemon.)

*Notice of Judgment No. 238.*—Adulteration and Misbranding of Apple Jelly. (Substitution of glucose in part.)

*Notice of Judgment No. 239.*—Misbranding of a Drug, "Beaver and Oil Compound." (False and misleading statements.)

*Notice of Judgment No. 241.*—Adulteration of Cream. (Butter fat abstracted.)

*Notice of Judgment No. 242.*—Adulteration and Misbranding of Vanilla Extract. (Artif. colored—Vanillin substituted in part.)

*Notice of Judgment No. 245.*—Adulteration and Misbranding of Damiana Gin.

*Notice of Judgment No. 246.* Adulteration and Misbranding of Strawberry Flavor. (Artificially colored.)

*Notice of Judgment No. 248.*—Adulteration and Misbranding of Turpentine. (Not up to standard strength, quality, etc.)

*Notice of Judgment No. 249.* Adulteration of Confectionery. (Silver Dragees.) (Misleading statements.)

*Notice of Judgment No. 250.*—Misbranding of Gluten Flour and Gluten Farina. (Lack of sufficient nitrogenous and glutinous properties.)

*Notice of Judgment No. 251.*—Misbranding of Canned Tomatoes. (Misleading statements.)

*Notice of Judgment No. 252.*—Adulteration of Evaporated Egg. (In putrid, decomposed condition.)

*Notice of Judgment No. 253.*—Adulteration of Shelled Peanuts. (Infested with worms, etc.)

*Notice of Judgment No. 254.*—Adulteration of Molasses. (Presence of water.)

*Notice of Judgment No. 255.*—Adulteration and Misbranding of Evaporated Apples. (Contained decomposed vegetable substance.)

*Notice of Judgment No. 256.*—Adulteration and Misbranding of Stock Food. (Presence of rice hulls.)

*Notice of Judgment No. 257.*—Adulteration of Herring. (In a putrid condition and infested with maggots.)

*Notice of Judgment No. 258.*—Misbranding of a Drug, "Preston's Head-ake." (Misleading statements.)

*Notice of Judgment No. 259.*—Adulteration and Misbranding of Lemon Extract. (Artificially colored, coal-tar dye.)

*Notice of Judgment No. 260.*—Misbranding of a Drug, "U-RE-KA Headache Powders." (Quantity of acetanilid not mentioned.)



*Notice of Judgment No. 261.*—Misbranding of a Drug, "Sure Thing Tonic." (Misleading statements.)

*Notice of Judgment No. 262.*—Misbranding of Macaroni. (Labeled to impress foreign products.)

*Notice of Judgment No. 263.*—Adulteration and Misbranding of Buckwheat Flour. (Presence of Graham Flour.)

*Notice of Judgment No. 264.*—Adulteration of Cream. (Below standard in fat.)

*Notice of Judgment No. 265.* Adulteration of Milk. (Presence of water.)

#### FOOD INSPECTION DECISIONS.

The Food Inspection Decisions reprinted here have been received since the publication of the April Bulletin. They are quite important to the respective interests in California.

Extra copies can be obtained upon application to the Director of the State Laboratory, University of California, Berkeley, Cal.

#### FOOD INSPECTION DECISION 116.

##### AMENDMENT TO FOOD INSPECTION DECISION 74.

In Food Inspection Decision 74, it is provided that—

Stearin, for mixture with domestic oils, not animal, may be admitted without certificate if the importer executes a penal bond conditioned upon the subsequent export of all stearin thus imported.

This provision is revoked, and hereafter stearin will not be admitted into the United States unless accompanied by a certificate, in the form prescribed in Food Inspection Decision 74, showing its freedom from disease, as in the case of meats and other meat food products of cattle, sheep, swine, and goats.

#### FOOD INSPECTION DECISION NO. 117.

##### THE USE OF CERTIFIED COLORS.

Food Inspection Decision No. 76, published July 13, 1907, gives a list of seven coal-tar dyes, which may, without objection from the Department of Agriculture, be used in foods until further notice. Food Inspection Decision No. 77, published September 25, 1907, provides for the certification of dyes. Food Inspection Decision No. 77 was amended March 25, 1909, by Food Inspection Decision No. 106. Some manufacturers have succeeded in producing the seven colors, under the conditions outlined in Food Inspection Decision No. 77. Certified dyes are now on the market. Certified dyes may be used in foods without objection by the Department of Agriculture, provided the use of the dye in food does not conceal damage or inferiority. If damage or inferiority be concealed by the use of the dye, the food is adulterated.

Uncertified coal-tar dyes are likely to contain arsenic and other poisonous material, which, when used in food, may render such food injurious to health and, therefore, adulterated under the law.

In all cases where foods subject to the provisions of the Food and Drugs act of June 30, 1906, are found colored with dyes which contain either arsenic or other poisonous or deleterious ingredient which may render such foods injurious to health, the cases will be reported to the Department of Justice and prosecutions had.

The Department is in possession of facts which show that there are so-called vegetable colors on the market which contain excessive quantities of arsenic, heavy metals and contaminations due to imperfect or incomplete manufacture. While the Department has raised no objection to the use of vegetable colors, per se, yet the use of colors even of vegetable origin, open to the objection of excessive arsenic, etc., should not be used for coloring food products.

#### FOOD INSPECTION DECISION 118.

##### LABELING OF WHISKEY COMPOUNDS UNDER F. I. D. 113.

At the instance of certain parties in interest we have considered the suggestion for a modification of the rules embodied in Food Inspection Decision No. 113. The suggestion was that mixtures of whiskey with a potable alcohol distillate from sources other than grain, such as cane, fruit, or vegetables, are not misbranded if labeled "a blend of whiskey and neutral spirit." After exhaustive consideration we have concluded that such a change would be in conflict with the controlling reason of the rule itself.

It has also been suggested that the term "blend" might be employed under the circumstances given if the neutral spirit disclosed its origin by the designation



"neutral molasses spirit," or other like terms. While a modification in that form might protect the public against deception or misunderstanding, we are nevertheless of the opinion that such a modification would still be in conflict with the fundamental principle adopted in the President's opinion and in Food Inspection Decision No. 113. In our opinion such a combination, if it is to be designated according to the terms of the law, would be a compound, and not a blend, and if either term is to be employed the former is the only one that is permissible.

Our conclusion accordingly is that we must decline to modify the decision heretofore adopted in any respect.

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## DEPARTMENT OF EPIDEMIOLOGY.

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WILLIAM F. SNOW.

This department is omitted this month owing to incompleteness of tabulated report.



## LIST OF COUNTY HEALTH OFFICERS.

<i>County.</i>	<i>Health Officer.</i>	<i>Address.</i>
Alameda .....	Dr. C. L. McKown.....	Niles
Alpine .....		
Amador .....	Dr. E. E. Endicott.....	Jackson
Butte .....	Dr. L. Q. Thompson.....	Oroville
Calaveras .....	Dr. E. W. Weirich.....	Angels Camp
Colusa .....	Dr. W. T. Rathbun.....	Colusa
Contra Costa .....	Dr. J. Wallace DeWitt.....	Antioch
Del Norte .....		
El Dorado .....	Dr. S. H. Rantz.....	Placerville
Fresno .....	Dr. G. L. Long.....	Fresno
Glenn .....	Dr. J. A. Randolph.....	Willows
Humboldt .....	Dr. J. H. Mallery.....	Eureka
Imperial .....	Dr. E. E. Patten.....	Imperial
Inyo .....	Dr. I. J. Woodin.....	Independence
Kern .....	Dr. W. S. Fowler.....	Bakersfield
Kings .....	Dr. W. H. Miller.....	Hanford
Lake .....	Dr. W. E. Upton.....	Kelseyville
Lassen .....	Dr. E. C. Houston.....	Bieber
Los Angeles .....	Dr. O. R. Stafford.....	3754 Vermont ave., Los Angeles
Madera .....	Dr. Mary R. Butin.....	Madera
Marin .....	Dr. J. H. Kuser.....	Novato
Mariposa .....	Dr. H. Kylberg.....	Mariposa
Mendocino .....	Dr. John S. Hogshead.....	Ukiah
Merced .....	Dr. W. E. Lilley.....	Merced
Modoc .....	Dr John Stile.....	Alturas
Mono .....		
Monterey .....	Dr. Garth Parker.....	Salinas
Napa .....	Dr. Adolph J. Kahn (County Physician).....	Napa
Nevada .....	Dr. John T. Jones.....	Grass Valley
Orange .....	Dr. C. D. Ball.....	Santa Ana
Placer .....	Dr. G. H. Fay.....	Auburn
Plumas .....	Dr. G. B. Lasswell.....	Quincy
Riverside .....	Dr. Geo. E. Tucker.....	Riverside
Sacramento .....	Dr. Hugh Beattie.....	Elk Grove
San Benito .....	Dr. R. G. Curtis.....	Hollister
San Bernardino .....	Dr. D. C. Strong.....	San Bernardino
San Diego .....		
San Francisco .....	Dr. W. F. McNutt, Jr.....	San Francisco
San Joaquin .....	Dr. R. B. Knight.....	Stockton
San Luis Obispo.....	Dr. H. M. Cox.....	San Luis Obispo
San Mateo .....	Dr. W. G. Beattie.....	Colma
Santa Barbara .....	Dr. J. C. Bainbridge.....	Santa Barbara
Santa Clara .....	Dr. Wm. Simpson.....	San Jose
Santa Cruz .....		
Shasta .....	Dr. F. Stabel.....	Redding
Sierra .....	Dr. R. B. Davy.....	Downieville
Siskiyou .....	Dr. F. J. McNulty (County Physician).....	Yreka
Solano .....	Dr. S. G. Bransford.....	Suisun
Sonoma .....	Dr. S. S. Bogle.....	Santa Rosa
Stanislaus .....	Dr. F. R. De Lappe.....	Modesto
Sutter .....	Dr. J. McFadyen.....	Yuba City
Tehama .....	Dr. A. P. Tarter.....	Tehama
Trinity .....	Dr. D. B. Fields.....	Weaverville
Tulare .....	Dr. F. A. Coombs.....	Visalia
Tuolumne .....	Dr. C. E. Congdon.....	Jamestown
Ventura .....	Dr. A. A. Maulhardt.....	Oxnard
Yolo .....	Dr. A. E. Blevins.....	Woodland
Yuba .....	Dr. J. H. Barr.....	Marysville



# CALIFORNIA STATE BOARD OF HEALTH.

## PARTIAL LIST OF PUBLIC HEALTH ORGANIZATIONS OF CALIFORNIA.

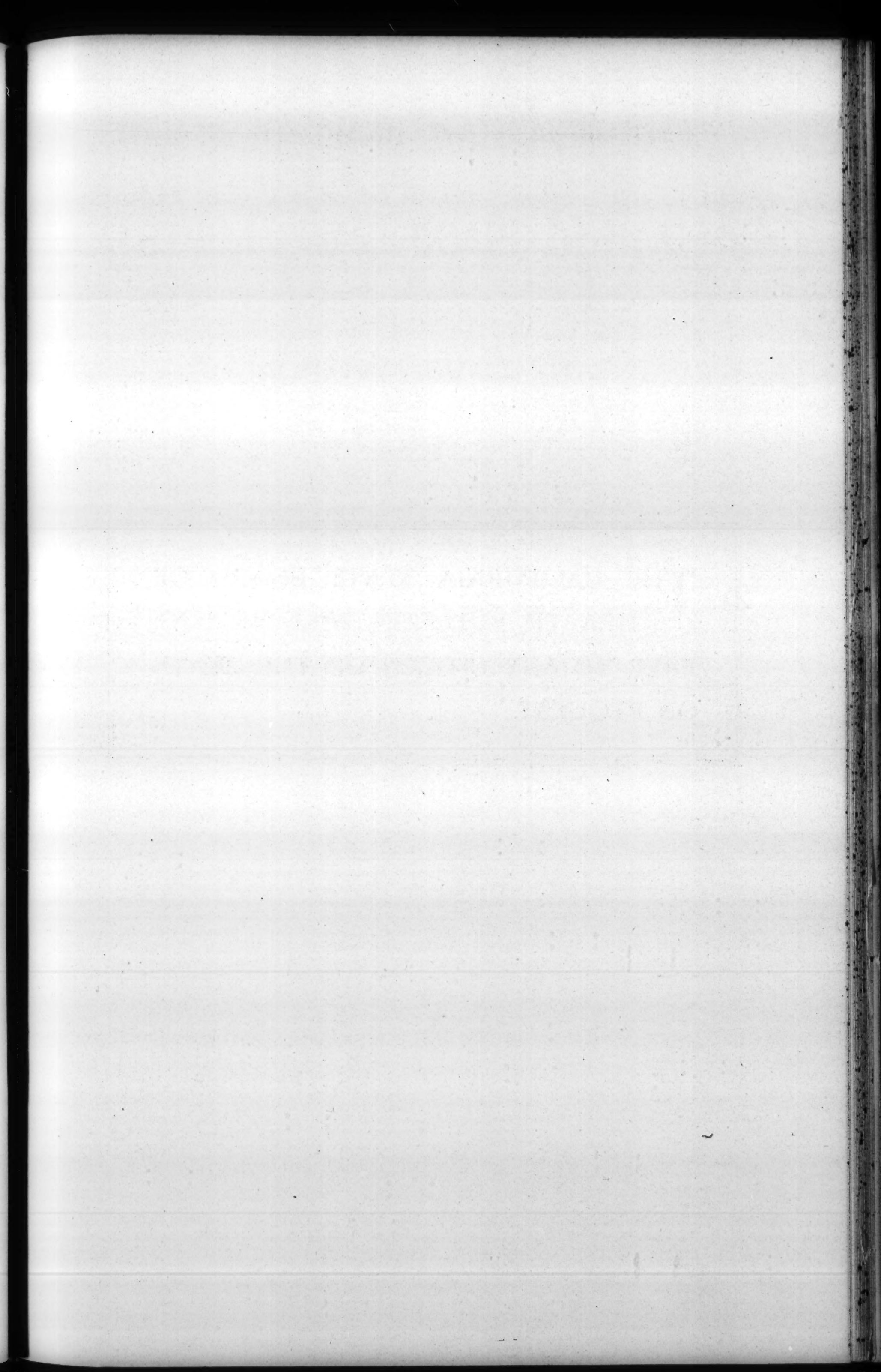
1. General.  
California Public Health Association.  
Public Health Commission of State Medical Society.
2. For the Prevention of Tuberculosis.  
California Association for the Study and Prevention of Tuberculosis.  
Affiliated societies: Alameda County ...; Long Beach ...; Los Angeles ...; Monrovia (Visiting Nurses' Association); Pasadena ...; Redlands ...; Sacramento (White Crusaders); San Diego ...; San Francisco ...; Santa Ana ...; Santa Barbara ...; Sierra Madre ...
3. For the Prevention of Syphilis and Gonorrhea.  
California Association for the Study and Prevention of Syphilis and Gonorrhea (R. A. Archibald, M.D., Secretary, Health Office, Oakland, Cal.).
4. Other Organizations carrying on Important Public Health Work.
  1. California Federation of Women's Clubs.
  2. California Teachers' Association (L. E. Armstrong, Secretary, Oakland, Cal.).
  3. California Press Association (F. W. Richardson, President, Berkeley, Cal.).
  4. Board of Charities and Corrections (W. S. Gates, Secretary, San Francisco).
  5. California Playground Association (F. W. D'Evelyn, M.D., Secretary, 1214 Polk street, San Francisco).
  6. Red Cross Society and Divisions.
  7. White Crusaders. (W. A. Briggs, M.D., President, Sacramento, Cal.).
  8. Volunteers of America.
  9. Salvation Army.
  10. Juvenile Courts.

This list is only partially completed and will be repeated, with additions, next month. Any letters or questions sent to the Board will be answered or referred to the above mentioned organizations.

## PARTIAL LIST OF CITY HEALTH OFFICERS.

Alameda.....	Dr. L. W. Stidham	Modesto.....	Dr. F. R. De Lappe
Alhambra.....	Dr. F. E. Corey	Monterey.....	Martin Birks
Alturas.....	Dr. John Stile	Morgan Hill.....	Dr. D. W. Watt
Anaheim.....	Dr. J. L. Beebe	Mountain View.....	Dr. Philo Hull
Antioch.....	E. C. Worrell	Napa.....	J. D. Treadway
Azusa.....	Dr. S. A. Ellis	National City.....	Dr. Theo. F. Johnson
Berkeley.....	Dr. J. J. Benton	Nevada City.....	Hugh Murchie
Biggs.....	Dr. B. Caldwell	Oakland.....	Dr. E. N. Ewer
Black Diamond.....	Dr. F. S. Gregory	Ontario.....	Dr. C. S. Orr
Bakersfield.....	J. E. Yancey	Orange.....	Dr. Ida B. Parker
Chico.....	G. H. Taylor	Oroville.....	Dr. W. F. Gates
Coalinga.....	Dr. H. C. Warren	Oxnard.....	Dr. Ralph W. Avery
Colton.....	Dr. J. A. Champion	Pacific Grove.....	Dr. H. N. Yates
Colusa.....	Dr. W. T. Rathbun	Palo Alto.....	Dr. Chas. Boxmeyer
Coronado.....	Dr. Raffaele Lorini	Pasadena.....	Dr. Stanley P. Black
Dixon.....	W. C. Rhem	Petaluma.....	Dr. R. B. Duncan
East San Jose.....	Dr. W. A. Low	Placerville.....	Robert L. Crocker
Elsinore.....	Dr. S. E. Ball	Pomona.....	Dr. T. J. Wilson
Escondido.....	Dr. David Crise	Piedmont.....	Geo. T. Burtchael
Etna.....	Dr. W. H. Haines	Redding.....	L. D. Poole
Eureka.....	Dr. W. L. Perrott	Redlands.....	Dr. J. M. Wheat
Fairfield.....	Dr. S. G. Bransford	Redondo Beach.....	Dr. D. R. Hancock
Ferndale.....	Dr. L. Michael	Richmond.....	Dr. Chas. R. Blake
Fort Jones.....	Thos. Bransom	Riverside.....	Dr. Thos. R. Griffith
Fresno.....	Dr. Geo. H. Aiken	Sacramento.....	Dr. Wm. K. Lindsay
Gilroy.....	Dr. Jonas Clark	Salinas.....	S. A. McCollum
Glendale.....	R. E. Chase	San Bernardino.....	Dr. J. G. Ham
Grass Valley.....	Dr. J. T. Jones	San Diego.....	Dr. F. H. Mead
Hayward.....	Dr. F. W. Browning	San Francisco.....	Dr. W. F. McNutt, Jr.
Healdsburg.....	Dr. O. C. Hueb	San Jose.....	Dr. A. L. Cothran
Hermosa Beach.....	H. Vetter	San Jacinto.....	Charles Long
Hollywood.....	E. O. Palmer	Santa Ana.....	Dr. J. I. Clark
Huntington Park.....	Dr. W. Thompson	Santa Barbara.....	Dr. Benjamin Bakewell
Lakeport.....	Dr. H. P. Stippe	Santa Cruz.....	Dr. C. H. Anderson
Lindsay.....	Dr. Walter W. Tourtillott	Santa Monica.....	Dr. W. H. Parker
Livermore.....	Dr. H. G. McGill	Santa Rosa.....	Dr. J. W. Jesse
Lodi.....	Dr. F. W. Colman	Sisson.....	Dr. L. Gouzuett
Long Beach.....	Dr. W. H. Newman	South Pasadena.....	Dr. C. A. Whiting
Los Angeles.....	Dr. L. M. Powers	Stockton.....	Dr. S. W. R. Langdon
Los Gatos.....	Dr. Elenor S. Yelland	Turlock.....	Dr. E. L. Clough
Madera.....	Dr. Mary R. Butin	Vallejo.....	Dr. F. T. Bond
Martinez.....	Dr. E. E. Brown	Watsonville.....	Dr. F. H. Koepke
Merced.....	Dr. C. H. Castle	Yreka.....	Dr. A. J. Collar
Mill Valley.....	Capt. M. Staples		







**T**HE CALIFORNIA STATE BOARD OF  
HEALTH BULLETIN WILL BE SENT  
FREE TO ANY CITIZEN OF THE STATE  
ON REQUEST.